

ABSTRACT OF THE DISCLOSURE

A polymer electrolyte for use in a lithium secondary battery prepared by polymerizing a composition including 0.1 to 90% by weight of a first compound represented by formula 1, a second compound represented by formula 2 or a mixture thereof, 0.1 to 90% by weight of a third compound represented by formula 3, and 9.8 to 99.8% by weight of a nonaqueous organic solvent containing 0.5 to 2.0 M of a lithium salt. Formula 1 is $\text{CH(R1)=C(R2)-C(=O)O-R3-N(R4)(R5)}$, Formula 2 is $\text{CH(R1)=C(R2)-C(=O)O-R3-CN}$, and Formula 3 is $\text{Z-[-Y-X-C(R2)=CH(R1)]}_n$.

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